```
begin 5,73,155,399,357

       05dec00 07:58:31 User208760 Session D1731.2
            $0.00    0.056 DialUnits File410
     $0.00  Estimated cost File410
     $0.01  TYMNET
     $0.01  Estimated cost this search
     $0.47  Estimated total session cost   0.173 DialUnits

SYSTEM:OS  - DIALOG OneSearch
  File   5:Biosis Previews(R)  1969-2000/Dec W1
         (c) 2000 BIOSIS
  File  73:EMBASE  1974-2000/Oct W5
         (c) 2000 Elsevier Science B.V.
*File  73: Update codes are currently undergoing readjustment.
For details type Help News73.
  File 155:MEDLINE(R)  1966-2000/Dec W4
         (c) format only 2000 Dialog Corporation
*File 155: For information on updating, changes to the file, and
check tags information please see Help News155.
  File 399:CA SEARCH(R)  1967-2000/UD=13323
         (c) 2000 American Chemical Society
*File 399: Use is subject to the terms of your user/customer agreement.
RANK charge added; see HELP RATES 399.
  File 357:Derwent Biotechnology Abs  1982-2000/Dec B1
         (c) 2000 Derwent Publ Ltd

      Set  Items  Description
      ---  -----  -----------
? s icam?

      S1   26601  ICAM?
? s s1 and py=1987

           26601  S1
         1564672  PY=1987
      S2      14  S1 AND PY=1987
? rd s2

...completed examining records
      S3       7  RD S2 (unique items)
? t s3/7/all
```

13/7/20 (Item 20 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

06266197 BIOSIS NO.: 000086100380
PRIMARY STRUCTURE OF **ICAM**-1 DEMONSTRATES INTERACTION BETWEEN MEMBERS OF THE IMMUNOGLOBULIN AND INTEGRIN SUPERGENE FAMILIES
AUTHOR: STAUNTON D E; MARLIN S D; STRATOWA C; DUSTIN M L; SPRINGER T A
AUTHOR ADDRESS: LAB. MEMBRANE IMMUNOCHEM., DANA-FARBER CANCER INST., HARVARD MED. SCH., BOSTON, MASS. 02115.
JOURNAL: CELL 52 (6). 1988. 925-934.
FULL JOURNAL NAME: Cell
CODEN: CELLB
RECORD TYPE: Abstract
LANGUAGE: ENGLISH

ABSTRACT: Intercellular adhesion molecule 1 (**ICAM**-1) is a 90 kd inducible surface glycoprotein that promotes adhesion in immunological and inflammatory reactions. **ICAM**-1 is a ligand of lymphocyte function-associated antigen-1 (LFA-1), an .alpha..beta. complex that is a member of the integrin family of cell-cell and cell-matrix receptors. **ICAM**-1 is encoded by an inducible 3.3 kb mRNA. The amino acid sequence specifies an integral membrane protein with an extracellular domain of 453 residues containing five immunoglobulin-like domains. Highest homology is found with neural cell adhesion molecule (NCAM) and myelin-associated glycoprotein (MAG), which also contain five Ig-like domains. NCAM and MAG are nervous system adhesion molecules, but unlike **ICAM**-1, NCAM is homophilic. The **ICAM**-1 and LFA-1 interaction is heterophilic and unusual in that it is between members of the immunoglobulin and integrin families. Unlike other integrin ligands, **ICAM**-1 does not contain an RGD sequence.

Set	Items	Description
S1	26601	ICAM?
S2	14	S1 AND PY=1987
S3	7	RD S2 (unique items)
S4	10	S1 AND PY=1986
S5	5	RD S4 (unique items)
S6	2	S1 AND PY=1985
S7	1	RD S6 (unique items)
S8	0	S1 AND PY=1984
S9	7586556	1
S10	1648540	PY=1988
S11	276227	1 AND PY=1988
S12	95	S1 AND PY=1988

13/7/32 (Item 32 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

05865114 BIOSIS NO.: 000034088263
ICAM AN ADHESION LIGAND OF LFA-1 IS HOMOLOGOUS TO THE NEURAL CELL ADHESION MOLECULE NCAM
AUTHOR: SIMMONS D; MAKGOBA M W; SEED B
AUTHOR ADDRESS: DEP. MOL. BIOL., HARV. MED. SCH., MASS. GENERAL HOSP., BOSTON, MASS. 02114, USA.
JOURNAL: NATURE (LOND) 331 (6157). 1988. 624-627.
FULL JOURNAL NAME: NATURE (London)
CODEN: NATUA
RECORD TYPE: Citation
LANGUAGE: ENGLISH

13/7/33 (Item 33 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

05843632 BIOSIS NO.: 000034066781
ICAM-1 A LIGAND FOR LFA-1-DEPENDENT ADHESION OF B T AND MYELOID CELLS
AUTHOR: MAKGOBA M W; SANDERS M E; LUCE G E G; DUSTIN M L; SPRINGER T A; CLARK E A; MANNONI P; SHAW S
AUTHOR ADDRESS: DEP. CHEM. PATHOL., ROYAL POSTGRADUATE MED. SCH., HAMMERSMITH HOSP., DU CANE ROAD, LONDON W12 0HS, U.K.
JOURNAL: NATURE (LOND) 331 (6151). 1988. 86-88.
FULL JOURNAL NAME: NATURE (London)
CODEN: NATUA
RECORD TYPE: Citation
LANGUAGE: ENGLISH

13/7/36 (Item 3 from file: 73)
DIALOG(R)File 73:EMBASE

03693492 EMBASE No: 1988142928
Purified intercellular adhesion molecule-1 (**ICAM**-1) is a ligand for lymphocyte function-associated antigen 1 (LFA-1)
Martin S.D.; Springer T.A.
Laboratory of Membrane Immunochemistry, Dana-Farber Cancer Institute, Boston, MA 02115 United States
Cell (CELL) (United States) 1988, 53/5 (813-819)
CODEN: CELLB ISSN: 0092-8674
DOCUMENT TYPE: Journal
LANGUAGE: ENGLISH SUMMARY LANGUAGE: ENGLISH

Lymphocyte function-associated antigen 1 (LFA-1) is a leukocyte cell surface glycoprotein that promotes intercellular adhesion in immunological and inflammatory reactions. It is an alphabeta complex that is structurally related to receptors for extracellular matrix components, and thus belongs to the integrin family. **ICAM**-1 (intercellular adhesion molecule-1) is a distinct cell surface glycoprotein. Its broad distribution, regulated expression in inflammation, and involvement in LFA-1-dependent cell-cell adhesion have suggested that **ICAM**-1 may be a ligand for LFA-1. We have purified **ICAM**-1 and incorporated it into artificial supported lipid membranes. LFA-1sup + but not LFA-1sup - cells bound to **ICAM**-1 in the artificial membranes, and the binding could be specifically inhibited by anti-**ICAM**-1 treatment of the membranes or by anti-LFA-1 treatment of the cells. The cell binding to **ICAM**-1 required metabolic energy production, an intact cytoskeleton, and the presence of Mgsup 2sup + and was temperature dependent, characteristics of LFA-1- and **ICAM**

3/7/39 (Item 1 from file: 399)
DIALOG(R)File 399:CA SEARCH(R)

111230579 CA: 111(25)230579k PATENT
Intercellular adhesion molecule-1 (ICAM-1), antibodies to ICAM-1, and their use in assays and pharmaceuticals
INVENTOR(AUTHOR): Springer, Timothy Alan; Rothlein, Robert; Marlin, Steven Dean; Dustin, Michael Loran
LOCATION: USA
ASSIGNEE: Dana-Farber Cancer Institute, Inc.
PATENT: European Pat. Appl. ; EP 289949 A2 DATE: 881109
APPLICATION: EP 88106901 (880429) *US 45963 (870504) *US 115798 (871102) *US 155943 (880216)
PAGES: 73 pp. CODEN: EPXXDW LANGUAGE: English CLASS: C12N-015/00; C07K-015/00; C12P-021/00; A61K-039/395; G01N-033/574; A61K-049/00; C12P-021/00; C12R-001/91 DESIGNATED COUNTRIES: AT; BE; CH; DE; ES; FR; GB;

13/7/43 (Item 5 from file: 399)
DIALOG(R)File 399:CA SEARCH(R)

109143596 CA: 109(17)143596d JOURNAL
Primary structure of ICAM-1 demonstrates interaction between members of the immunoglobulin and intergrin supergene families
AUTHOR(S): Staunton, Donald E.; Marlin, Steven D.; Stratowa, Christian; Dustin, Michael L.; Springer, Timothy A.
LOCATION: Dana-Farber Cancer Inst., Harvard Med. Sch., Boston, MA, 02115, USA
JOURNAL: Cell (Cambridge, Mass.) DATE: 1988 VOLUME: 52 NUMBER: 6
PAGES: 925-33 CODEN: CELLB5 ISSN: 0092-8674 LANGUAGE: English
SECTION:
CA203003 Biochemical Genetics
CA206XXX General Biochemistry
CA213XXX Mammalian Biochemistry
CA215XXX Immunochemistry
IDENTIFIERS: glycoprotein ICAM1 cDNA sequence human
DESCRIPTORS:
Glycoproteins,specific or class, ICAM-1...
amino acid sequence of, of human, Ig-like domains in
Gene and Genetic element,animal...
for glycoprotein ICAM-1, of human, sequence of
Animal cell line,HL-60... Vein,umbilical, endothelium...
glycoprotein ICAM-1 cDNA of, cloning and sequence of
Immunoglobulins...
glycoprotein ICAM-1 domains related to, of human
Protein sequences...
of glycoprotein ICAM-1 and precursor, of human, complete
Molecular cloning...
of glycoprotein ICAM-1 cDNA, of human
Deoxyribonucleic acid sequences,glycoprotein ICAM-1-specifying...
of human, complete
CAS REGISTRY NUMBERS:
114679-89-9 116609-56-4 116609-57-5 116609-58-6 116609-59-7
116609-60-0 116609-61-1 116609-62-2 amino acid sequence of
114679-79-7 116609-52-0 nucleotide sequence of

13/7/44 (Item 1 from file: 357)
DIALOG(R)File 357:Derwent Biotechnology Abs

0083606 DBA Accession No.: 89-01597 PATENT
Monoclonal antibody preparation against intercellular adhesion molecules - hybridoma construction
PATENT ASSIGNEE: Dana-Farber-Cancer-Inst. **1988**
PATENT NUMBER: EP 289949 PATENT DATE: 881109 WPI ACCESSION NO.: 88-316235 (8845)
PRIORITY APPLIC. NO.: US 155954 APPLIC. DATE: 880216
NATIONAL APPLIC. NO.: EP 88106901 APPLIC. DATE: 880429
LANGUAGE: English
ABSTRACT: Intercellular adhesion molecule, **ICAM**-1, or its derivative, a recombinant DNA molecule capable of expressing **ICAM**-1, a method for recovering **ICAM**-1 in a pure form, a monoclonal antibody (MAb) prepared against **ICAM**-1, a hybridoma, a method for producing the MAb, a method for diagnosis of tumors and a pharmaceutical composition containing **ICAM**-1, or its functional derivative, are new. The MAb is R6-5-D6 and is produced by hybridoma cell line ATCC HB-9580. The MAb is produced by: (1) injecting an animal with a cell expressing **ICAM**-1; (2) fusing the spleen cells of this immunized animal with a myeloma cell line to form a hybridoma; (3) culturing the hybridomas; and (4) screening the hybridomas for the ability to produce anti-**ICAM** -1 MAbs. The screening step preferably involves: (a) incubating the hybridoma supernatant with a lymphocyte preparation; (b) examining the ability of the MAb to prevent cell aggregation; and (c) selecting a hybridoma cell line which produces MAbs which inhibit aggregation of lymphocytes. The MAbs may be used as antiinflammatory

223041 BIOSIS NO.: 000082063663
INDUCTION BY INTERLEUKIN 1 AND INTERFERON-GAMMA TISSUE DISTRIBUTION BIOCHEMISTRY AND FUNCTION OF A NATURAL ADHERENCE MOLECULE INTRACELLULAR ADHERENCE MOLECULE-1
AUTHOR: DUSTIN M L; ROTHLEIN R; BHAN A K; DINARELLO C A; SPRINGER T A
AUTHOR ADDRESS: LAB. MEMBRANE IMMUNOBIOCHEM., DANA FARBER CENT. INST., BOSTON, MASS.
JOURNAL: J IMMUNOL 137 (1). 1986. 245-254.
FULL JOURNAL NAME: Journal of Immunology
CODEN: JOIMA
RECORD TYPE: Abstract
LANGUAGE: ENGLISH

ABSTRACT: **ICAM**-1 is a cell surface glycoprotein originally defined by a monoclonal antibody (MAb) that inhibits phorbol ester-stimulated leukocytes aggregation. Staining of frozen sections and immunofluorescence flow cytometry showed intercellular adhesion molecule-1 (**ICAM**-1) is expressed on non-hematopoietic cells such as vascular endothelial cells, thymic epithelial cells, certain other epithelial cells, and fibroblasts, and on hematopoietic cells such as tissue macrophages, mitogen-stimulated T lymphocyte blasts, and germinal center dendritic cells in tonsils, lymph nodes, and Peyer's patches. **ICAM**-1 staining on vascular endothelial cells is most intense in T cell areas in lymph nodes and tonsils showing reactive hyperplasia. **ICAM**-1 is expressed in low amounts on peripheral blood leukocytes. Phorbol ester-stimulated differentiation of myelomonocytic cell lines greatly increases **ICAM**-1 expression. **ICAM**-1 expression on dermal fibroblasts is increased threefold to fivefold by either interleukin 1 (IL 1) or interferon-.gamma. at 10 U/ml over a period of 4 or 10 h, respectively. The induction is dependent on protein and mRNA synthesis and is reversible. **ICAM**-1 displays Mr heterogeneity in different cell types with a Mr of 97,000 on fibroblasts, 114,000 on the myelomonocytic cell line U937, and 90,000 on the B lymphoblastoid cell JY. **ICAM**-1 biosynthesis involves a Mr .apprx. 73,000 intracellular precursor. The non-N-glycosylated form resulting from tunicamycin treatment has a Mr of 55,000. **ICAM**-1 isolated from phorbol myristic acetate (PMA) stimulated U937 and from fibroblasts yields an identical major product of Mr = 60,000 after chemical deglycosylation. **ICAM**-1 MAb interferes with the adhesion of phytohemagglutinin blasts, and the adhesion of the cell line SKW3 to human dermal fibroblast cell layers. Pretreatment of fibroblasts but not lymphocytes with **ICAM**-1 MAb, and of lymphocytes but not fibroblasts with lymphocyte function-associated antigen 1 MAb inhibits adhesion. Intercellular adhesion is increased by prior exposure of fibroblasts to IL 1, and correlates with induction of **ICAM**-1.

03156780 EMBASE No: 1986179357

Induction by IL 1 and interferon-gamma: Tissue distribution, biochemistry, and function of a natural adherence molecule (**ICAM**-1)

Dustin M.L.; Rothlein R.; Bhan A.K.; et al.
Laboratory of Membrane Immunochemistry, Dana-Farber Cancer Institute, Boston, MA United States

Journal of Immunology (J. IMMUNOL.) (United States) 1986, 137/1 (245-254)
CODEN: JOIMA
DOCUMENT TYPE: Journal
LANGUAGE: ENGLISH

ICAM-1 is a cell surface glycoprotein originally defined by a monoclonal antibody (MAb) that inhibits phorbol ester-stimulated leukocyte aggregation. Staining of frozen sections and immunofluorescence flow cytometry showed intercellular adhesion molecule-1 (**ICAM**-1) is expressed on non-hematopoietic cells such as vascular endothelial cells, thymic epithelial cells, certain other epithelial cells, and fibroblasts, and on hematopoietic cells such as tissue macrophages, mitogen-stimulated T lymphocyte blasts, and germinal center dendritic cells in tonsils, lymph nodes, and Peyer's patches, **ICAM**-1 staining on vascular endothelial cells is most intense in T cell areas in lymph nodes and tonsils showing reactive hyperplasia. **ICAM**-1 is expressed in low amounts on peripheral blood leukocytes. Phorbol ester-stimulated differentiation of myelomonocytic cell lines greatly increases **ICAM**-1 expression. **ICAM**-1 expression on dermal fibroblasts is increased to fivefold by either interleukin 1 (IL 1) or interferon-gamma at 10 U/ml over a period of 4 or 10 hr, respectively. The induction is dependent on protein and mRNA synthesis and is reversible. **ICAM**-1 displays M(r) heterogeneity in different cell types with a M(r) of 97,000 on fibroblasts, 114,000 on the myelomonocytic cell line U937, and 90,000 on the B lymphoblastoid cell JY. **ICAM**-1 biosynthesis involves a M(r) ~73,000 intracellular precursor. The non-N-glycosylated form resulting from tunicamycin treatment has a M(r) of 55,000. **ICAM**-1 isolated from phorbol myristic acetate (PMA) stimulated U937 and from fibroblasts yields an identical major product of M(r) = 60,000 after chemical deglycosylation, **ICAM**-1 MAb interferes with the adhesion of phytohemaglutinin blasts, and the adhesion of the cell line SKW3 to human dermal fibroblast cell layers. Pretreatment of fibroblasts but not lymphocytes with **ICAM**-1 MAb, and of lymphocytes but not fibroblasts with lymphocyte function-associated antigen 1 MAb inhibits adhesion. Intercellular adhesion is increased by prior exposure of fibroblasts to IL 1, and correlates with induction of **ICAM**-1.

5/7/4 (Item 2 from file: 73)
DIALOG(R)File 73:EMBASE

03097598 EMBASE No: 1986210175
A human intercellular adhesion molecule (**ICAM**-1) distinct from LFA-1
Rothlein R.; Dustin M.L.; Marlin S.D.; Springer T.A.
Laboratory of Membrane Immunochemistry, Dana-Farber Cancer Institute, Boston, MA 02115 United States
Journal of Immunology (J. IMMUNOL.) (United States) 1986, 137/4 (1270-1274)
CODEN: JOIMA
DOCUMENT TYPE: Journal
LANGUAGE: ENGLISH

Homotypic adhesion by phorbol ester-stimulated lymphocytes requires LFA-1 and Mgsup +sup 2 and does not involve like-like interactions between LFA-1 molecules of adjacent cells. The latter finding suggested that a second molecule, distinct from LFA-1, also participates in LFA-1-dependent adhesion. The identification of such a molecule was the object of this investigation. After immunization with LFA-1-deficient EBV-transformed lymphoblastoid cells, a MAb was obtained that inhibits phorbol ester-stimulated aggregation of LFA-1sup + EBV lines. This MAb defines a novel cell surface molecule, which is designated intercellular adhesion molecule 1 (**ICAM**-1). **ICAM**-1 is distinct from LFA-1 in both cell distribution and structure. In SDS-PAGE, **ICAM**-1 isolated from JY cells is a single chain of M(r) = 90,000. As shown by MAb inhibition, **ICAM**-1 participates in phorbol ester-stimulation adhesion reactions of B lymphocyte and myeloid cell lines and T lymphocyte blast. However, aggregation of one T lymphocyte cell line (SKW-3) was inhibited by LFA-1 but not **ICAM**-1 MAb. It is proposed that **ICAM**-1 may be a ligant